

The Reef Cornetfish, *Fistularia commersonii* Rüppell, 1838, New to the California Marine Fish Fauna

Milton S. Love

Marine Science Institute, University of California, Santa Barbara, CA 93106,
love@lifesci.ucsb.edu

I report here on several sightings in southern California of the reef cornetfish, *Fistularia commersonii* Rüppell, 1838. These records mark the first time this species has been reported from California marine waters.

Mr. Bill Powers reported an unverified sighting on 7 November 2015 at Little Flower Reef, San Clemente Island (32°50.399'N, 118°22.136'W). Mr. Powers was diving over a sand-shell hash slope adjacent to a vertical rock wall in about 12 m of water. The approximately one-meter-long fish was more or less motionless and Mr. Powers was able to observe it for several minutes, eventually approaching and touching it. Mr. Powers reports that the fish was green in color with blue spots and stripes and had a long filament extending from its caudal fin. This fish was not photographed.

A second sighting was made by Ms. Sandy Dildine on 12 November 2015 within Crescent Bay, Laguna Beach (33°32.7'N, 117°48.3'W) in 7 m of water with surface water temperature at this site of about 20°C. This approximately one-meter-long fish was slowly swimming just above the bottom. Photographs and videos of this fish taken on 12 and 13 November 2015 show a green fish with blue spots and stripes. Ms. Dildine noted that when the fish was more or less motionless it had a series of dark bars along its body as well as bright, light blue spots and stripes (Fig. 1). When actively swimming, the bars of this individual quickly disappeared and the stripes and spots became darker (Fig. 2). Ms. Dildine also observed what was likely the same individual within the same circumscribed area (of about 10 m) on 19, 20, and 22 November 2015. In these instances, the fish was associated with an aggregation of blacksmith, *Chromis punctipinnis* (Cooper, 1863).

Three cornetfish species live in the Pacific Ocean: *Fistularia commersonii* Rüppell, 1838, reef cornetfish; *Fistularia corneta* Gilbert & Starks, 1904, deepwater cornetfish; and *Fistularia petimba* Lacepède, 1803, red cornetfish. All range widely in the Indo-Pacific (*F. petimba* is also found in the Atlantic Ocean). In the eastern Pacific, *Fistularia corneta* occurs as far north as Huntington Beach, southern California (Curtis and Herbinson 2001) and southwards to Callao, Peru (Chirichigno and Vélez 1998), including the Gulf of California (Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). *Fistularia petimba* is absent from the eastern Pacific (Nakabo 2002). Of these taxa, *F. commersonii* is the only species that is green with blue spots and stripes (Thomson et al. 2000, Robertson and Allen 2015) as *F. corneta* is orange or brown with pink dorsal, anal, and caudal fins (Robertson and Allen 2015) and *F. petimba* is red to orange-brown (Kells and Carpenter 2011). Thus, based on color and pattern, it is highly likely that the San Clemente Island and Laguna Beach individuals are *F. commersonii*.

These California sightings extend the eastern Pacific range to southern California. The previous northernmost range was Bahia Magdalena (Thomson et al. 2000) to Iquique, northern Chile (Sielfeld et al. 2010), including the Gulf of California (Fischer et al. 1995) and Islas Galápagos (Grove and Lavenberg 1997). They have been reported from surface waters to depths of 132 m (Mundy 2005). This species reaches a maximum length of 1.6 m (Fischer et al. 1995).

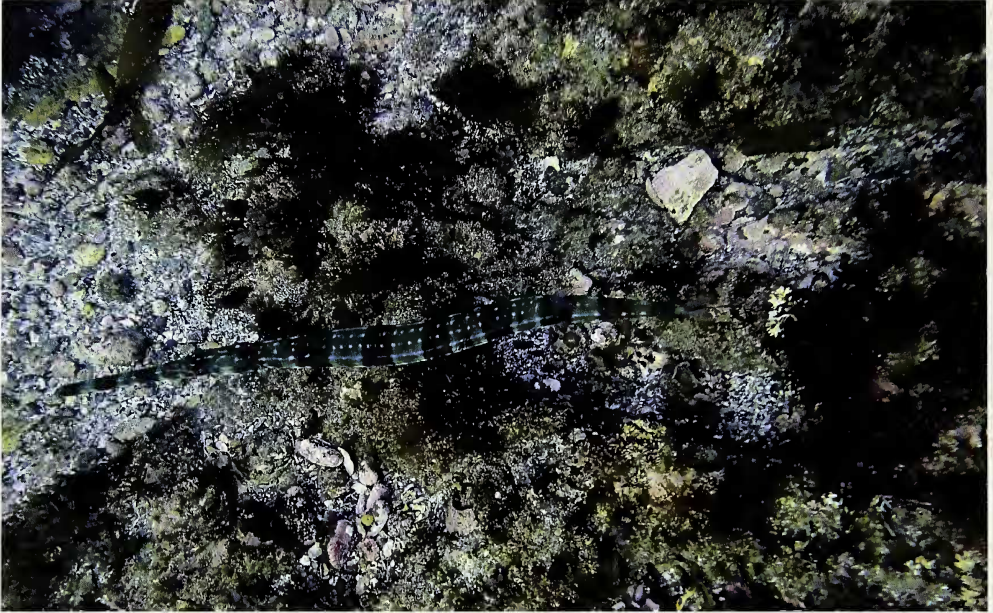


Fig. 1. Dorsal view of a stationary reef cornetfish, *Fistularia commersonii*, showing dark bars and lighter spots and stripes. Photographed on 13 November 2015 off Laguna Beach, southern California, by Ms. Sandy Dildine.

These fish were observed during a very strong El Niño and were part of a wave of tropical reef fish species (including cardinalfishes and damselfishes) that were observed in southern California during 2015. It is interesting to note that the southern-most capture of *F. commersonii*, in northern Chile, also took place during an El Niño (Sielfeld et al. 2010) and that the



Fig. 2. Dorsal view of a swimming reef cornetfish lacking bars and having darker spots and stripes. Photographed on 13 November 2015 off Laguna Beach, southern California, by Ms. Sandy Dildine.

Huntington Beach records of *F. corneta*, based on the capture of two small fishes, occurred during the waning months of the 1997–1998 El Niño (Curtis and Herbinson 2001).

Notes Added in Proof: On 6 December 2015, Mr. Mike Couffer observed and photographed a small (4 cm TL) *F. commersonii*, swimming near the sea floor just south of the Newport Pier, southern California (33°36'N, 117°56'W). Similar to the San Clemente Island and the Laguna Beach individuals, this individual was identified based on its green color and blue spotting on the back. This specimen represents the northernmost record for this species.

A paper by Jackson et al. (2015) postulates, based on *F. commersonii*'s rapid recent colonization of the entire Mediterranean Sea via the Suez Canal, that this species may be particularly well adapted to expand its geographic range when opportunities arise.

Acknowledgments

I thank Mr. Bill Powers and Ms. Sandy Dildine for bringing their observations to my attention and Mr. Spencer Salmon for providing the geographic coordinates of the Santa Clemente Island sighting.

Literature Cited

- Chirichigno, F.N. and J. Vélez D. 1998. Clave para identificar los peces marinos del Perú (segunda edición, revisada y actualizada). Instituto de Mar de Perú. Publicación Especial.
- Curtis, M.D. and K.T. Herbinson. 2001. First record of the Pacific cornetfish, *Fistularia corneta* Gilbert and Starks 1904, a new species to the Southern California fauna during the 1997–1998 El Niño. Bull. S. Calif. Acad. Sci., 100:156–159.
- Fischer, W., F. Krupp, W. Schneider, C. Sommer, K.E. Carpenter, and V.H. Niem. 1995. Guía FAO para la identificación para los fines de la pesca. Pacífico centro-oriental. Vol. II, Vertebrados, Parte 1. Vol. III, Vertebrados, Parte 2. FAO, Rome.
- Grove, J.S. and R.J. Lavenberg. 1997. The Fishes of the Galápagos Islands. Stanford University Press, Stanford, California.
- Jackson, A.M., K. Tenggardjaja, G. Perez, E. Azzurro, D. Golani, and G. Bernardi. 2015. Phylogeography of the bluespotted cornetfish, *Fistularia commersonii*: a predictor of bioinvasion success? Mar. Ecol., 36:887–896.
- Kells, V. and K. Carpenter. A Field Guide to the Coastal Fishes from Maine to Texas. Johns Hopkins University Press, Baltimore, MD.
- Mundy, B.C. 2005. Checklist of the Fishes of the Hawaiian Archipelago. Bishop Museum Press, Honolulu, Hawaii.
- Nakabo, T. 2002. Fishes of Japan. Tokai University Press, Tokyo, Japan.
- Robertson, D.R. and G.R. Allen. 2015. Shorefishes of the Tropical Eastern Pacific: an Information System. Version 2.0. Smithsonian Tropical Research Institute, Balboa, Panama. <http://biogeodb.stri.si.edu/sftep/en/pages>. Accessed 30 November 2015.
- Sielfeld, W., J. Laudien, M. Vargas, and M. Villegas. 2010. El Niño induced changes of the coastal fish fauna off northern Chile and implications for ichthyogeography. Rev. Biol. Mar. Oceanog., 45, S1:705–722.
- Thomson, D.A., L.T. Findley, and A.N. Kerstitch. 2000. Reef Fishes of the Sea of Cortez. University of Texas Press, Austin.